AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A control system for detecting nozzle wear in an industrial shower header including one or more ~~a plurality of liquid~~ spray nozzles, ~~for orienting liquid at a predetermined pressure and droplet size~~ comprising:

~~means for determining a calculated flow rate for the plurality of liquid spray nozzles at a given operating pressure;~~

a flow sensor disposed to monitor ~~means for continuously monitoring~~ an actual flow rate of liquid through the shower ~~nozzle~~ header;

a pressure sensor disposed to monitor an actual operating pressure of liquid applied to the shower header; and

a controller connected to the flow sensor and pressure sensor for receiving signals therefrom, the controller being configured to determine a calculated flow rate for the actual operating pressure,

compare ~~means for comparing~~ the calculated ~~desired~~ flow rate with the actual flow rate and create ~~creating~~ a feedback signal when a difference between the calculated flow rate and the actual flow rate exceeds a threshold, ~~is exceeded;~~ and

provide ~~means for providing~~ the feedback signal to the spray system to adjust an operating condition thereof.

2. (Original) The system of claim 1 wherein the feedback signal is operative to initiate a cleaning cycle or alarm warning.

3. (Currently Amended) The system of claim 1 wherein the controller ~~means for determining~~ includes a look-up table with entries for liquid flow rate at various discrete operating pressures of the nozzles.

4. (Currently Amended) The system of claim 3 wherein the controller is configured ~~means for determining includes means~~ for interpolating between the discrete operating pressures in the look-up table for determining the calculated flow rate for the actual ~~providing an~~ operating pressure ~~for the nozzles~~.

5. (Currently Amended) A method for monitoring the performance of a spray header having one or more spray nozzles ~~nozzle~~ in an industrial spraying system, ~~including the steps of control system for controlling the pressure of liquid applied to a nozzle~~ comprising:

measuring an actual operating pressure of liquid applied to the spray header;

determining a calculated flow rate for the actual operating pressure ~~calculating a liquid flow rate value for a nozzle header at a desired pressure to derive a calculated liquid flow rate value~~;

measuring an actual flow rate of liquid applied at the spray ~~desired pressure through the nozzle~~ header to derive an actual flow rate ~~value~~;

comparing the actual flow rate ~~value~~ with the calculated flow rate ~~value~~;

determining whether a difference between the actual flow rate and the calculated flow rate exceeds a pre-selected threshold ~~exceeds a percentage error deviation from the measured flow rate value~~; and

providing an output signal for adjusting an operating condition of the spraying system when the difference between the actual flow rate and the calculated flow rate exceeds the threshold ~~the percentage error exceeds a certain value~~.

6. (Currently Amended) A spray controller for providing a signal indicative of nozzle performance detection in an industrial shower header including one or more liquid spray nozzles, ~~for orienting liquid spray at a certain operating pressure and droplet size~~ comprising:

a first connection to a pressure sensor for receiving a signal indicating an actual operating pressure of liquid applied to the shower header;

a second connection to a flow sensor for receiving a signal indicating an actual flow rate of liquid applied to the shower header;

a microprocessor programmed to determine

~~means for determining~~ a calculated flow rate for the actual operating pressure ~~for the one or more liquid spray nozzles at a given operating pressure~~;

~~means for continuously monitoring an actual flow rate of liquid through the nozzle header;~~

~~means for comparing~~ compare the calculated ~~desired~~ flow rate with the actual flow rate and create ~~creating~~ a feedback signal when a difference between the calculated flow rate and the actual flow rate exceeds a threshold ~~is exceeded;~~ and

provide ~~means for providing~~ the feedback signal to the spray system to adjust an operating condition thereof.